

SWBAT: explain interference for sound

Jan 4-7:20 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in two terms (rows) today.

Concept	Meaning	Sym-bol	Units	Picture
<div>PITCH →</div> FREQUENCY	HOW MANY PER UNIT OF TIME $\text{FREQ} = \frac{\#}{\text{TIME}}$	f $f = \frac{1}{T}$	hertz $\text{Hz} = \frac{1}{\text{sec}}$	
PERIOD	HOW MUCH TIME FOR ONE. PERIOD = $\frac{\text{TIME}}{\#}$	T $T = \frac{1}{f}$	seconds sec.	
TRANSVERSE	WHEN THE MEDIUM VIBRATES ACROSS THE DIRECTION THE WAVE TRAVELS.			
LONGITUDINAL	WHEN THE MEDIUM VIBRATES ALONG THE DIRECTION THE WAVE TRAVELS.			
<div>INTENSITY →</div> AMPLITUDE	HOW FAR FROM THE MIDDLE.	A	meters m	
WAVELENGTH	HOW FAR FOR ONE "BACK & FORTH"	λ	meters m	
WAVESPEED	$\frac{\text{DISTANCE OF A WAVE}}{\text{TIME OF A WAVE}}$	v	$\frac{\text{meters}}{\text{second}}$ m/s	

Feb 18-6:50 AM

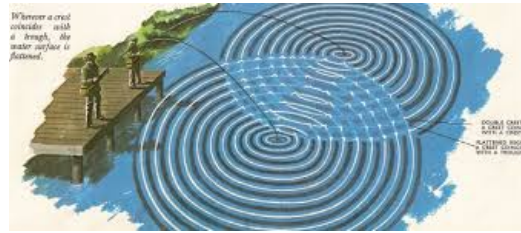
Welcome!!!

H. Leslie Grebe

SECA Physics
Friday 2 May 2014

* Pick up:

- blue concept sheet
- slip of paper (for later)



Opening Question:

What does interference mean again?

Centering

Sep 7-7:04 AM

CATEGORIES FOR SOUNDS

- LOUDER/QUETER: INTENSITY/AMPLITUDE
- HIGHER & LOWER = PITCH/FREQUENCY
- QUALITIES OF SOUND - TIMBRE
TINY/DEEP

CATEGORIES OF INSTRUMENTS

- STRINGS
- AIR COLUMNS
- PERCUSSION

May 2-10:51 AM

Review - 3 kinds of instruments...

<https://www.youtube.com/watch?v=dOLBn8GKBIA>

<https://www.youtube.com/watch?v=aEWEHJuowLA>

<https://www.youtube.com/watch?v=0D2o8F2MOuI>

Fluteboxer, Nathan Lee

Dubstep beatboxer

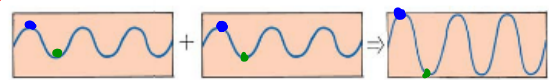
May 2-7:25 AM

INTERFERENCE

Speaker experiment #1:

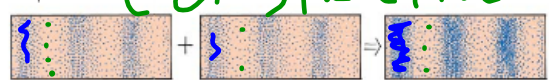
In phase and out of phase

$R/K \rightarrow R/K$
 $R/K \rightarrow K/R$

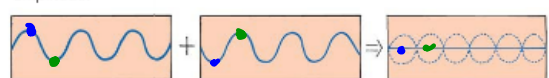


a. Two identical transverse waves in phase produce a wave of increased amplitude.

CONSTRUCTIVE

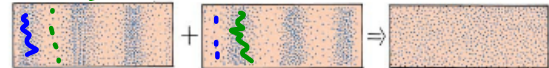


b. Two identical longitudinal waves in phase produce a wave of increased amplitude.



c. Two identical transverse waves that are out of phase destroy each other.

DESTRUCTIVE



d. Two identical longitudinal waves that are out of phase destroy each other.

Speaker experiment #2:

Constructive and Destructive Interference

2 SPEAKERS

<https://phet.colorado.edu/en/simulation/sou>

Apr 21-7:45 AM

Explain...

Why were there some louder and quieter spots around the room?

May 2-7:35 AM

Daily 3 Questions

CP hmwk: Catch up on homework!

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

- 1) INTERFERENCE means the result of waves adding when they meet
- 2) To get the sound to cancel out, my speakers should be
 - A) in phase
 - ☒ B) out of phase
 - C) both
 - D) neither
- 3) DESTRUCTIVE means where two waves cancel to make QUIET.

Apr 25-7:25 AM